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ABSTRACT

This progress report describes the activities and summarizes the evaluation of the Modular Achievement Program (MAP) at Bowling Green State University for the 1972-73 academic year. Emphasis is placed on the general education component, the structure of MAP in its position within the University, a profile of the MAP student, student development, the time-shortening option within MAP, and finances. The conclusion reviews the impact on the faculty, university and higher education; the search for academic achievement criteria; the baccalaureates-an area of problematic concern; and the future of the MAP program. Related documents concerning components of the MAP program are HE 005 083, 005 078, 005 082, 005 081, 005 080, 005 101, 005 077, and 005 079. (MJM)

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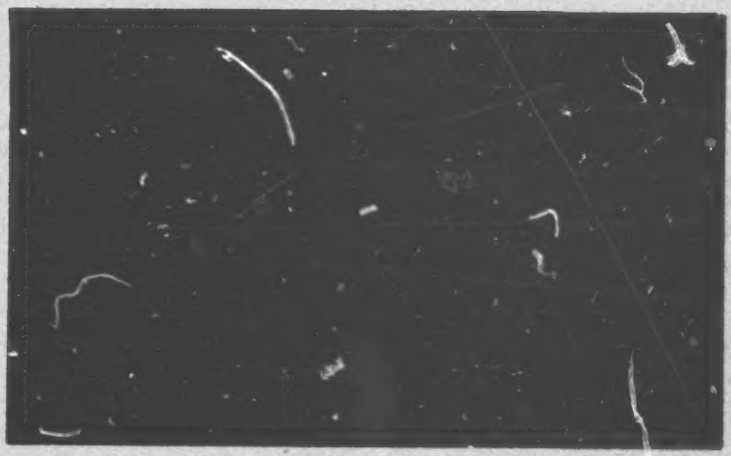

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Modular Achievement Program

1972-73

A Summary Report

Richard C. Giardina
Director

November 1973

The following is a "progress report" describing the activities and summarizing the evaluation of the Modular Achievement Program at Bowling Green State University for the 1972-73 academic year.* This report draws liberally from a number of other reports concerning MAP. (Please see the appendix for a listing of these reports.)

Great appreciation is expressed to the authors of these reports, and especially to Jim Litwin for his extensive help with earlier drafts of this summary.

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INTRODUCTION

The Modular Achievement Program envisaged its task during the 1972-73 academic year as three-fold: (a) the identification of essential areas of achievement at the baccalaureate level; (b) the mounting of curricular programs within the general education domain which would facilitate student attainment of desired competencies; and (c) the determination of student eligibility for a time-shortened baccalaureate.

By the end of the academic year, MAP had identified four areas of achievement, had mounted three curricular programs (The Little College, The Humanities Cluster College, and The Science Cluster College), and had recommended 43 students for a shortened degree program. In addition, it was able to begin the extensive task of formulating achievement criteria within general education.

Under ideal circumstances, achievement criteria and levels of competency would be defined only after they were known to be fundamental predictors of future performance. Without such data, MAP was virtually left to produce a new set of criteria and to experiment with its usefulness. While willing to do this, MAP has not been willing to endanger the future academic career of students; thus it has taken the approach that it would not only define a set of competencies that students should hold, but would also guarantee that this set would include proven competence in traditionally defined areas. It was MAP's hope that a group of students would emerge who not only had achieved in traditional areas, but who also had an additional set of competencies that MAP wished to suggest as defining the general education component of the baccalaureate.

During 1972-73 - a year characterized by exploring and building - MAP was not able to isolate the variables responsible for the attainment of the competencies put forth as important. Much of this type of research would presume the ability of MAP to have a large amount of control over people and process. We are just beginning to formulate the type of research design which might be able to investigate the nature of the impact of MAP on student performance.

Thus, it is important to realize that this summary is not a definitive statement of MAP's successes or failures. The evaluative data presented is not conclusive, given a number of problems encountered in implementing the research design. The trends noted are speculative. Especially in the area of determining student eligibility for a time-shortened degree, MAP was able merely to recommend (and implement) a process by which a subset of students could be selected as candidates. It makes no claim that the readiness of these students is necessarily a result of MAP.

MAP Philosophy.

The Modular Achievement Program is defined in terms of its modular programmatic content and achievement-based orientation. Progress through the baccalaureate is therefore defined in terms of the student's proficiency in mastering the skills, the knowledge, and the perspectives of certain modular areas of human endeavor. It is assumed that such achievement can eventually be gauged in terms of certain objectively-defined criteria through the use of measures including evaluation instruments recognized for their validity and reliability.

However, it is apparent that achievement criteria are not defined in a vacuum. As a prior concern, it is necessary to stipulate those areas in which achievement is considered to be important. MAP posits that an optimal approach to the baccalaureate ought attempt to develop student proficiency in four essential modular areas of human endeavor. These are: (a) the area of cognitive and communicative skill development; (b) that of "man-universe" relationships; (c) the area of professional specialization; and (d) that of diversification supportive of the professional specialization undertaken as a major focus. It is MAP's contention that one can indeed define a baccalaureate program on the basis of these four modular areas. However, practically all of MAP's deliberations to date have been concerned with attempting to define the general education component of the baccalaureate (areas "a" and "b").

The General Education Component.

MAP's concept of general education includes two facets: a cognitive and communicative skill development module and a set of man-universe relationship modules. In determining proficiency in these two modular areas, certain behavioral objectives or outcomes are seen as desirable. Students should be able to think critically and creatively about decisions and communicate these thoughts in ways which will be meaningful to themselves and others. They should come to value critical thinking and inquiry as useful to problem-solving. They should be aware of the way in which they relate to their world and the type of values which dictate their functioning in that world; that is to say, they should seek to understand themselves, their environment, and their relationship to that environment, both in terms of the values which the environment attempts to impose upon them and in terms of the values which they, in turn, attempt to impose upon it.

MAP stipulates that if it can be shown that a student has reached an acceptable level of skill development, and that he can appropriately apply those skills to selected problem areas, then he should be certified as having met the general education requirement of his college. In the assessment of these skills and achievements, it becomes essential to determine criteria and select instruments to measure performance.

Furthermore, MAP suggests that skill development and problem-solving are activities essential to general education and that formal coursework need not be taken in any or all of the traditionally-defined disciplinary groups to meet general education requirements. Nevertheless, in addition to measuring student achievement in skill development and application, MAP attempted to measure achievement in traditionally-accepted disciplinary groups in order to determine whether MAP students are competent in those substantive areas normally included in typical baccalaureate programs.

The Structure of MAP and its Position within the University.

In 1972-73, MAP comprised three curricular programs and a central staff made up of the project director, an assistant to the director for development and evaluation, an administrative assistant in charge of office supervision and budgeting, a counselor/residential program coordinator, two part-time counselors, and a secretary. The program itself was under the direct supervision of the Provost and operated as an experimental program under the approval of the Academic Council of the university.

MAP was one of the first programs placed under the developmental and evaluative aegis of the university's newly-created Academic Development and Evaluation System. Under the guidelines of the system, a MAP Development and Evaluation Committee was created to oversee the program's progress and monitor the implementation of the research design.

The MAP Student.

Recruiting students into MAP began June 15, 1972; by July 5 (the date of the arrival of the first freshmen for summer pre-registration), roughly 3,000 applications had been mailed out to students already admitted to Bowling Green. Unfortunately, some completed applications were received after the freshmen had already started coming to campus. Therefore, it was necessary to conduct daily sessions during each of the twenty days of pre-registration in order to explain MAP to interested freshmen and their parents, and to register those who formally decided to join the program. As a result of the extremely short period of time available for planning and the fact that many applications were received late, it was not possible to engage in a formal selection process based on a set of pre-determined variables. However, an attempt was made to see that students from all three colleges were represented in MAP and that these students also represented all levels of initial achievement. By the start of the school year, a total of 198 students had signed up for the program, with 104 from Arts & Sciences, 58 from Education, and 36 from Business. The ACT scores of MAP students as well as their high school decile ranks, as compared with scores and ranks of the entering freshman class, show that, while MAP students generally scored and ranked somewhat higher than the class at large, they still exhibited scores and ranks well dispersed along a continuum. (See Table 1 on next page.)

ACT profiles also showed a greater percentage of MAP students aspiring to advanced study than students in the freshman class-at-large (55% compared to 46%). If students who aspire to continue their academic study beyond the baccalaureate are the most appropriate group for a time-shortened baccalaureate, then more MAP students would appear to be appropriate candidates on that basis.

TABLE 1: American College Test (ACT) Scores

	English	Math	Social Studies	Natural Science	Composite
BGSU Mean Standard Score	20.1	22.6	21.2	22.7	21.8
Standard Deviation	4.7	6.2	6.2	5.8	4.6
MAP Mean Standard Score	21.1	23.2	22.5	23.8	22.8
Standard Deviation	4.1	6.2	6.0	5.2	4.0

There is also evidence to suggest that MAP students have been more interested in innovation and change than their fellow students. They indicated a greater interest in independent study (53% to 43%), and more of them had been involved in movements to change institutions (51% to 39%). All of these responses were made before these students ever heard of MAP.

Turning to reasons given for joining MAP, the trend of responses favored: (a) a shortened baccalaureate for career reasons

(b) the possibility of off-campus study

(c) smaller class sizes

(d) a shortened baccalaureate for financial reasons

(e) more time to specialize,

in descending order.

MAP's GENERAL EDUCATION COMPONENTS AND THEIR EVALUATION

The three integrated programs in general education which MAP offered during the year are reviewed in extensive reports prepared by MAP faculty and staff. However, a brief description of each program and the evaluative research associated with each follows.

The Little College

The Little College was a "learning package" required of all MAP students in the Fall Quarter. It was made up of two component programs - "Images" and the Communications Module - which attempted to develop related skills of thinking and communicating in order to provide an essential basis for the remainder of the freshman year. Both components were characterized by small classes and close personal interaction among faculty and students.

The "Images" component was a course in critical thinking and inquiry - cognitive skill development. The major aim of the faculty was "to overcome the common disbelief in the relevance and pragmatic value of intellectuality (or rationality) and the efficacy of curricular academic work in its pursuit." Skill development was pursued in the areas of conceptual abstraction, analysis, analogical thought, logic (both deductive and inductive), and convergent and divergent thinking. A large portion of the course centered around class discussion, exercises and projects, all of which attempted to develop the above skills.

The evaluative research associated with the "Images" course used standard experimental design involving a pretest and a posttest as well as a control group of students matched with students in the "Images" course.

Although the control group diminished in size at the end of the quarter, its high academic performance (measured both by ACT scores and by GPA) suggests that it maintained its utility as a comparative group. (Average MAP Fall Quarter GPA: 2.81; average Control Group GPA: 3.03).

Students in the Images course did significantly better on a set of tests intended to measure achievement in the area of critical thinking than did students in the control group. Also both groups of students made gains in scores on a test of creative thinking, while an inventory used to measure the students' personal intellectual orientations reflected mixed results. (See Table 2 for results on the Watson-Glaser Critical Thinking Appraisal.)

TABLE 2: Results of Watson-Glaser Test

	MAP (N=187)		FEP (Control Group) (N=64)	
	Pre	Post	Pre	Post
Mean	67.34	69.39	66.12	66.93
Adjusted Mean		69.26		67.34

$F = 4.301$ ($p = .05$)

The Communications Module was the other major component of the Little College. It comprised a Speech and an English Composition course which were integrated in an attempt to help students obtain proficiency in these two vital areas of human communication. The English course concentrated on developing writing ability while the Speech course centered around verbal communication on an interpersonal level and in both small and large groups.

Before the Fall Quarter began, faculty from both of the courses attempted to integrate much of their syllabi to include some exercises and readings to be done simultaneously. An attempt was also made to coordinate the integration of these classes with the other component of the Little College, Images. While there were a number of core activities, instructors had freedom to plan their own individual activities in pursuit of agreed-upon goals.

The writing component of MAP (English 111 or 112) spent considerable time operationalizing a "rubric" system whereby essays could be graded on a series of five different dimensions. This grading procedure then tied into a proficiency exam system in which students were required to attain a certain level of competency before passing the course. Much of this went on during a time of controversy in the English Department concerning a pass/no record vs. letter grade option for students. In the end, students were able to select one system or the other. All of these dynamics made an evaluation of the course difficult, at best. The data collected would suggest that MAP students had slight increases in their writing skills, and these increases were about the same as non-MAP students experienced. The "rubric" system appears to hold a great deal of promise, and its further development should prove it to be a useful tool for establishing competency levels in writing.

The Speech course reshuffled the traditional emphasis on public speaking into a three-part curriculum. Part one emphasized communication on a one-to-one level; part two emphasized verbal behavior in small groups; part three emphasized speaking in front of larger audiences. It was felt that this arrangement more accurately reflected the types of verbal behavior people would be engaged in the great majority of their time after college.

The only part of the course that underwent any objective evaluation was the public-speaking aspect. Peer judgments on an internally-developed and experimental Auditor Response Inventory indicated slight increases in verbal ability in front of large groups, and no differences between MAP and non-MAP students. During the course of the term, attention was also devoted to the development of an instrument utilizing videotape in order to measure interpersonal communication for part one of the course. This promising tool will be operational in MAP's second year.

The Communications module experienced growth pains in its first year. What was planned as a set of core activities for students to be approached from a different perspective by the English, Speech and Images instructors turned out to contain much duplication and repetition for students. (It is certainly debatable if the lack of discrimination among perspectives would rest with students or faculty; one might assume some blame lay with each.) Another problem was the inability to operationalize the unique contribution that an integration of writing and speaking into one communications package was intended to make. Further evaluative efforts will hopefully reveal gains above and beyond those posited by each course which are valuable and not gauged by the individual evaluation efforts in English and Speech.

The Humanities Cluster College.

The Humanities Cluster College was a residential program emphasizing student development in both the cognitive and affective domain. It attempted to offer students an experience in the humanities which reversed current divisive trends in the humanities. 105 students participated.

The program integrated six disciplines from the Humanities (English, Philosophy, Art, Music, Theater and Classics), and structured the curriculum around five themes having to do with the kind of intellectual and emotional

development that can be gained from the Humanities. Each of the disciplines approached each theme from its own perspectives; the interrelationships of these perspectives introduced the student to the interdisciplinary dimension of the Humanities. The themes used were Perception and Perspective, Doing, Meaning, Values, and Growth. The emphasis in dealing with the themes was on principles rather than on information, on understanding rather than on memorizing. Creative projects were encouraged which would reinforce and make more personal the ideas gained from the various themes. The thrust of the program was "doing the humanities" rather than merely studying them. The general concern of the program centered around the question "What does it mean to be human?".

One of the most distinctive features of the Humanities Cluster was the integration of academic with residence hall and other activities. The program was designed to provide a living/learning environment intended "to counteract the sense of anomie and depersonalization so often attributed to student experiences with large universities." The Cluster was planned to create feelings of participation, community, and the integration of personal interests with academic pursuits.

The evaluative research associated with the program provides the following analysis, based upon a set of instruments still in developmental stages: students developed a capacity to be self-actualizing persons utilizing their capabilities and potentialities. They underwent a restructuring of their value hierarchies. In each of the individual disciplines of the humanities, except one, students in the program performed almost twice as well on a series of posttests as they did on pretests. (See Table 3.) Finally, they also seemed to become better able to render an interdisciplinary perspective to their examination of a topic.

TABLE 3: Mean Scores on Five Disciplinary Exams

	Pre	Post
Art	45.65 (n=99)	70.99 (n=104)
Classics	4.62 (n=101)	4.50 (n=94)
Music	19.08 (n=105)	38.82 (n=98)
Philosophy	13 12 (n=92)	22.74 (n=98)
Theatre	9.224 (n=98)	18.912 (n=102)

The student evaluation of the program suggested that the Cluster College was successful in providing the kind of environment it set out to achieve. Students in the Humanities Cluster, when compared to students in other programs at the university, felt they had "gained a sense of identity with an academic community and were part of a meaningful social group, ... were treated with some importance and not as IBM cards, ... were learning by 'doing' and not by reading books, ... spent more time in serious discussions, and had more time for personal growth." (See Table 4 for responses to selected evaluation questions.)

TABLE 4: Selected Humanities Cluster Evaluation Questions

	Item	Cluster (N=105)	Quarter* (N=35)	Self-Structured** (N=17)
(1)	I gained a sense of identity with an academic community	1.7	2.1	2.5
(2)	I was treated as though I am of some importance as an individual	1.5	2.0	2.4
(8)	Faculty placed a great emphasis on creativity	1.6	2.3	2.6
(17)	I found myself learning by actually 'doing' things	1.4	2.3	2.4
(19)	I was satisfied with my total experience	1.5	2.3	2.4

(1 = strongly agree; 4 = strongly disagree)

* MAP Students taking the Arts and Sciences Coordinated Humanities Quarter.

** MAP Students structuring their own schedules.

The Science Cluster College.

The third component of MAP in the area of general education was the Science Cluster College, an interdisciplinary program in science designed specifically for the non-science major. Faculty in the program were from seven different departments at Bowling Green: Biology, Chemistry, Computer Science, Geology, Mathematics, Philosophy, and Physics. The integration of

these disciplines into one program was intended to replace the usual mathematics and science program in such a way that the non-science major could understand the complex interaction among disciplines that is characteristic of modern science.

The major objectives of the cluster college were articulated as "designed program outputs" in terms of student achievement: 1) Understanding the nature and methods of science: a consideration of science and scientists; 2) Exposure to the subject matter of the natural sciences; and 3) Practicing science through a series of coordinated laboratory investigations.

The program was based in a residence hall; but because laboratory and other facilities were needed, not all of the classroom sessions were held in the hall. However, two computer terminals were moved into the hall for student use.

Ninety students participated in the program, all but four of whom were third-quarter freshmen in MAP. Five full-time and three half-time instructors made up the faculty of the Science Cluster.

The program had three basic elements: 1) The Science Seminar which met twice a week and concentrated on the philosophy of science; 2) Survey courses in each of the six disciplines (Biology, Chemistry, Computer Science, Geology, Math and Physics) held during the first five weeks; and 3) a Laboratory experience in the last five weeks devoted to independent investigations related to the topics of an "aquatic ecosystem" and "color." Students worked closely with faculty on these problem-oriented investigations. Special lectures and field trips were also offered on a regular basis.

Students were expected to achieve minimal standards in each of the areas (including all six survey courses). Since twenty-four students did not satisfy their requirements in one area or another, the Cluster faculty made

recommendations concerning what courses each student should subsequently take to complete his requirements. Many students had trouble with the math component of the Cluster College. It has since been decided that the Science Cluster will not have a math component during its second year, but that students will be encouraged to take math independently of the Cluster.

The evaluative research associated with the program suggests that students who took the Cluster had increased knowledge of the terms, processes, and methods of science and became more sophisticated in their attitudes toward science and scientists. Two standardized exams (STEP series) in Basic Math and General Science given at the beginning and end of the quarter showed that students' knowledge in both of these areas improved significantly. (See Table 5 for STEP Science results.)

TABLE 5: Results of STEP Science Test

				Percentile Rank on National Norms *	
	Mean	S.D.	N	Freshmen	Rising Juniors
Cluster pre-test	41.0	8.1	90	63	45
Cluster post-test	43.2	8.2	88	69	53

*National norms include students who were science majors.

MAP and STUDENT DEVELOPMENT

The "student development" aspect of MAP comprised a significant counseling and advisement program as well as an attempt to survey student experiences during their freshman year. This section summarizes both of these important concerns of MAP.

Counseling and Advisement

The counseling function was probably the most vaguely-defined area of MAP. Much of the energies of the first year went in this area to a clarification of duties and responsibilities of the people charged with counseling and advising activities.

Working with individual students on personal problems constituted only a small portion of the time of the staff. Vocational counseling and academic advising became major concerns. In a questionnaire given to MAP students, this division became clear. 93 students responded to the following question: "Which of the following best describes your reason for seeing a counselor?" Student responses follow:

N	Reason
44	Academic Advising
27	Vocational
10	Personal
1	Other

The same survey suggests that students in MAP perceived their experiences with counselors as being helpful, with 73 students responding:

"How helpful was your counseling experience?"

N	Response
39	Very Helpful
34	Somewhat Helpful
0	Not Helpful

Data from the Counseling Staff shows that 56% of MAP students did at one time during the course of the year see a MAP Counselor, as compared with the 15% of the university population that see counselors in the Counseling Center.

41 MAP students participated in two career/life planning workshops offered by the counseling staff. The evaluation of these workshops suggests that no major changes occurred in students as a result of the workshop. Most of the students seemed to want either to confirm their present career choice or to find out more about their chosen career field.

The MAP counseling staff had hoped to serve during the year as a resource for faculty who wished to improve their counseling skills. This offer was never accepted by the faculty; however, MAP faculty did seem to make an increasing number of referrals to the counselors for students with personal problems during the year.

The counseling staff was utilized by the Humanities Cluster College to a much greater extent than by any other MAP component program. The counselors set up office hours in Prout Hall for the Humanities Cluster students, and were often involved in classroom discussions that focused on interpersonal communication and values.

It became apparent that, during the year, the counseling staff did not engage in as much individual counseling as originally anticipated, but spent considerable time in advising students on academic matters. The staff also became responsible for handling the admission of 1973-74 freshmen into MAP, orientation, and registration. In the decision to make these matters a part of the work of the counseling staff, it was clear that MAP students could best be served by people familiar with all areas of student personnel. As of the start of the 1973-74 academic year, the two part-time persons from the Counseling Center (both holding doctorates in counseling psychology) are no longer officially a part of MAP and have been replaced by one graduate assistant from the Department of College Student Personnel and two peer counselors (former MAP students).

The counselors were clearly important to the MAP Project in its first year, despite an ambiguous beginning. Their interest in emphasizing a student-oriented program accounts for much of MAP's popularity with the students and its reputation for fostering a true "living-learning" environment.

The Student Experience in MAP

At the end of the academic year, the MAP staff designed a survey questionnaire to be administered to all MAP students and to a random group of other undergraduates at Bowling Green. 120 MAP students completed the questionnaire. The randomly chosen norm groups of freshmen and sophomores who took the Undergraduate Record Examinations at the end of the year together with the MAP freshmen were also asked to complete the questionnaire. Thus, 60 freshmen and 90 sophomores provided comparative data for the survey.

The nine-page questionnaire included five sections as well as a page for open-ended comments. The five sections were (1) Class-related items; (2) Involvement; (3) Sources of Difficulty and Help; (4) Alienation; and (5) Student Perceptions of Change.

In the class-related items, it was found that students in MAP found courses not only more interesting, exciting, and stimulating but also generating long discussions with friends and attempts to read beyond the class requirements, significantly more so than the other students did.

Another cluster of questions inquired about the degree of participation by students in various activities. 60% of MAP students suggested they were near the "center of activity" in terms of class discussions, and in general felt that they were participating to a moderate--to--high degree in a meaningful social group.

When students were asked to comment on the quality of help they received during the year, it was found that all students (both MAP and non-MAP) regarded other students as the group which was most consistently very helpful to them. The survey also verified our earlier impression that MAP counselors were well utilized. 43% of MAP students responded that counselors were "consistently very helpful."

Students were asked to comment on changes they perceived in themselves during the year. As a group, they did not see themselves to be at a standstill, and never perceived change in a negative direction; i.e., they developed a greater sense of identity, a more positive attitude toward learning, etc. Few differences were noted between MAP and non-MAP students.

A large portion of the survey was devoted to examining students' responses to 18 items constituting an alienation scale. Although findings were not significantly different on all items, it would appear that MAP students were less alienated than either freshmen in non-MAP programs or sophomores at the university. In 16 of the possible 36 comparisons, significant differences were found which appear to favor MAP as producing a less alienating environment.

MAP students tended to feel they had more of a voice, more to say about what was happening, more opportunity to be involved, and more control over their own life at the university.

When students were given the opportunity on the questionnaire to comment openly, one experience surfaced regularly for MAP students - too much testing. The length of time students were asked to take tests and complete questionnaires was clearly overdone in an attempt to be comprehensive at a time when few guidelines existed to make decisions about what would be most useful.

THE TIME-SHORTENING OPTION WITHIN MAP

As has been said previously, one of the major goals of the Modular Achievement Program has been to define the general education component of the baccalaureate in terms of achievement criteria and to certify completion of general education on the basis of performance in those defined areas of achievement. Areas chosen for measurement included skill development in critical thinking, written expression, and mathematics, and a basic set of understandings in the general areas of the social sciences, the humanities, and the physical sciences. Other areas of achievement were also of interest: problem-solving skills, competency in the exploration of values, facility of oral expression; however, adequate measurement instruments in these areas are still in the developmental stage.

It was determined by the MAP Development and Evaluation Committee that those MAP students performing at certain levels of competency in the areas of achievement mentioned above would be recommended by MAP to the various colleges of the university as competent in the area of general education and ready to begin work in their chosen areas of specialization and supportive diversification. In traditional terms, these students were ready for junior standing and work in their majors and minors. In order to bring them to junior standing, it would be recommended that the colleges grant them enough hours of "modular achievement credit" to bring them to 90 (or junior standing) at the end of their freshman year.

In order to measure basic knowledge in the social sciences, the humanities, and the physical sciences, the Undergraduate Record Examinations developed by ETS were chosen. It was determined that only those MAP freshmen scoring at or above the mean URE scores of a norm group of Bowling

Green sophomores would be eligible for a recommendation for junior standing. The mean sophomore scores were as follows:

Social Science	456
Humanities	482
Physical Science	538
Composite	492

In addition, scores at or above the 50th percentile of the total MAP group on the Watson-Glaser Critical Thinking Appraisal, at or above the 50th percentile of the MAP group on the STEP-Math exam (also developed by ETS), and at or above the B and/or 26.2 "rubric" level in Bowling Green's English 112 course, were also considered essential for a recommendation to be made. However, it was also determined that no one score would be sufficient to initiate or block a recommendation. The final decision would be made on the basis of the individual student's total "portfolio," also including faculty assessments, samples of the student's work, and grades.

Regarding grades, since they traditionally hold an important place in faculty opinion concerning student performance, it was decided to add a grade point average of at least 3.00 to the list of criteria to be used in making the final recommendations. (See Table 6 for a listing of all the criteria and their ranking.)

TABLE 6: Criteria for "Junior Standing"

PRIMARY

Undergraduate Record Exam

a.	Social Science	456	
b.	Humanities	482	Sophomore Norm
c.	Natural Science	538	Group Mean Scores
d.	Composite	492	

SECONDARY

Cumulative Grade Point Average 3.00

(Credits Earned: 45)

English 112 Grade or
Rubric Score B or 26.2*

SUPPORTIVE

Watson-Glaser Score
(Percentile: 50%)

of MAP Group

STEP Math Score
(Percentile: 50%)

* Mean Score of MAP Students who received a B or better.

Analyzing MAP Student Abilities: Grades & URE Scores

An analysis of MAP student grades yields the following data: an average GPA of 2.93 in MAP courses, of 2.83 in non-MAP courses, and of 2.89 in all courses (excluding, of course, those graded on an S/U basis). More complete data will be found in Tables 7, 8, and 9.

TABLE 7: Grade Point Average For MAP Students In MAP and Non-MAP Courses, 1972-73

	Fall	Winter	Spring
MAP	2.88	3.29	2.62
Non-MAP	2.63	2.99	2.88
	(N=182)	(N=185)	(N=180)

TABLE 8: GPA For Academic Year 1972-73, MAP Courses and Non-MAP Courses

	G.P.A.
MAP Courses	2.93
Non-MAP Courses	2.83
All Courses	2.89

TABLE 9: Number of MAP Students Who Took Courses On An All Grade Basis, Mixed Basis, or All Satisfactory-Unsatisfactory (S/U), Basis, 1972-73

	Fall	Winter	Spring
All Grades	67 (37)	47 (25)	58 (32)
Mixed	115 (63)	89 (48)	113 (63)
All S/U	0 (0)	49 (26)	9 (5)
	N=182 (100)	N=185 (100)	N=180 (100)

The average GPA of norm group freshmen was 2.96; and of norm group sophomores, 2.99. The 127 MAP students who took the URE (as did the norm group students) also had an average GPA of 2.99. (The 55 MAP students who did not take the URE averaged 2.68.) This data attests to the great similarity (at least as far as grades go) among the norm group students and the MAP students taking the URE.

Analyzing URE scores for the MAP population and both a freshman and sophomore norm group of Bowling Green students in the areas of the humanities, the social sciences, and the physical sciences, one finds that in each case the MAP group scored between the freshman and sophomore norm group. (See Table 10.)

TABLE 10: Mean Scores and Standard Deviations for the Undergraduate Record Exams

	Social Science	Humanities	Natural Science
Freshmen Norm Group (N = 60)	420 (77)	454 (65)	509 (81)
MAP (N = 127)	427 (68)	461 (74)	519 (79)
Sophomore Norm Group (N = 86)	456 (94)	482 (80)	538 (88)

It should, however, be pointed out that the differences between the MAP and freshman groups were not statistically significant, and that the differences between the MAP and sophomore groups were significant at the .05 level for the social sciences and humanities and not significant for the natural sciences. It should also be pointed out that neither norm group had the motivation surrounding the possibility of a shortened baccalaureate.

Nevertheless, the data certainly indicates that MAP students performed no worse than norm group freshmen in the traditional disciplinary areas of general education, even though these traditional disciplinary areas were not focal points of MAP curricular concern. (In those areas of specific MAP concern, e.g. critical thinking, MAP freshmen performed significantly better than other freshmen; see Table 2.)

In comparison with students in a national sample, the mean scores from MAP are higher than either the freshman or sophomore national samples. This difference is especially striking in the area of natural science. (See Table 11.) Of course it is also true that Bowling Green students are, in general, more highly qualified than average freshmen and sophomores nationally.

TABLE 11: Mean Scores and Standard Deviation for National Sample and MAP Students

	Social Science	Humanities	Natural Science
Freshmen	389 (92)	421 (84)	434 (93)
Sophomores	414 (88)	459 (84)	471 (88)
MAP Students	427 (68)	461 (74)	519 (79)

A comparison of MAP student URE scores and grades yields the following correlations:

Social Science URE: .439

Humanities URE: .372

Natural Science URE: .293

(N=127)

The correlations would lead us to conclude that the URE scores and the student grades are measuring differing sets of competencies.

Profiling the "Accelerated" Student

On the basis of the criteria and of an evaluation of all MAP student portfolios, 43 students were recommended for junior standing. The 43 represented approximately 33% of the 127 MAP students who presented themselves for the Undergraduate Record Examinations at the end of their freshman year. The 43 had a mean composite URE score of 523 and an average GPA of 3.46. (See Table 12 for the scores of the MAP students recommended and accepted for junior standing, as well as for comparative scores of all MAP freshmen and norm group freshmen and sophomores.)

TABLE 12: Scores of MAP Students Recommended and Accepted for Junior Status

	Students Recommended (43)*	Students Accepted by Arts & Sciences (12)	Students Accepted by Education (13)	Students Denied by Arts & Sciences (13)
URE				
Social Science	483	524	486	453
Humanities	516	576	492	495
Natural Science	569	606	553	565
Composite	523**	569	510	504
GPA	3.46	3.73	3.49	3.25
Watson-Glaser	67%	80%	60%	68%
STEP-Math	63%	74%	73%	44%

* Includes 5 students recommended to the College of Business Administration even though that College did not approve MAP's time-shortening plan.

** Mean URE composite score for Norm Group Freshmen: 461
Mean URE composite score for all MAP Freshmen: 469
Mean URE composite score fall Norm Group Sophomores: 492

The 43 students recommended also had a mean composite ACT score of 25.95 (3 points higher than the mean composite ACT score of all MAP freshmen). Nevertheless, two additional points must be mentioned in this regard. First, the ACT composite scores for the 43 students ranged from 20 to 32; and second, many other MAP students with scores within that range were not recommended.

Of the 43 recommendations made by MAP, 25 were accepted: 12 by the College of Arts and Sciences and 13 by the College of Education. The latter accepted all of the students (13) recommended by MAP; the former accepted about half (12 out of the 25 recommended). The College of Business Administration had previously refused to approve MAP's time-shortening plan. Thus the recommendation of 5 students to that college was pro forma on MAP's part.* (Table 12 also gives comparative scores of MAP students accepted and denied junior standing.)

The scores of the 12 students accepted by the College of Arts and Sciences indicate that College's extreme concern regarding grades. The 12 students accepted had an average GPA of 3.73, (whereas those denied had an average GPA of 3.25). They also had a mean URE composite score of 569, (100 points higher than the composite score for all MAP freshmen; 108 points higher than that for norm group freshmen; and 77 points higher than that for norm group sophomores).

The 25 students accepted for junior standing began their Fall Quarter, 1973, as juniors and, in general, began specializing in their majors and minors, in preparation for a possible 1975 graduation. They will be monitored closely during their junior and senior years in order to determine how they fare vis-a-vis those juniors and seniors pursuing a normal four-year curriculum.

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* These 5 students were eventually granted "partial" acceleration by the Business College.

MAP FINANCES

The Modular Achievement Program received a grant of $142,000 from the Carnegie Corporation of New York, of which $84,000 was granted for 1972-73. In addition, the program received $74,452 in direct allocation from the University itself.

Direct expenditures totaled $158,452, with the following breakdowns:

Instruction:	$82,212	(52%)
Counseling:	9,942	(06%)
Evaluation:	28,824	(18%)
Instructional Support:	37,474	(24%)

Indirect expenditures totaled $60,945, with the following breakdowns:

Instruction:	$49,880
Counseling:	11,065

Indirect expenditures included University "contributions" of faculty, graduate student, and counselor time, together with $7,800 in graduate assistant fee "waivers" (a misnomer) from the Graduate School.

The total of direct and indirect expenditures brings the final MAP budget to $219,397, with 60% spent in instruction, 10% in counseling, 13% in evaluation, and 17% in instructional support.

Costs per FTE

Of the $219,397, a case can be made that approximately $155,000 was returned to the University, through State subsidy and student tuition, as a result of the student credit hours generated by MAP. (It should be noted, however, that the $155,000 figure is a gross figure before the deduction of University-wide overhead.)

If one includes the entire MAP curriculum ("Images," English, Speech, Humanities Cluster, Science Cluster) in the accounting, MAP generated 5,660 student credit hours or 377 FTE's. Applying these figures to the MAP budget, the average direct cost of MAP per FTE is $420, while the average direct plus indirect cost of MAP is $582 (University-wide overhead not included).

According to figures recently released by the Ohio Board of Regents, the average cost of instruction at the general studies level at BGSU per FTE is $565. (This figure also does not include University-wide overhead.) A case can thus be made for the comparability of MAP and traditional general studies expenditures per FTE.

Savings to Student and State

As has been mentioned in a previous section of this essay, 25 students were accepted for junior standing and will most likely complete their baccalaureate program in approximately three years. Each one of these students is thus saving one year of tuition, room, and board expenses:

Tuition:	$ 780
Room & Board:	1,095
Total	$1,875 (@ 1972-73 rates)

At the same time, the State is also saving the sophomore year subsidy for each of the 25 students. Assuming that the average sophomore spends half his time taking general studies and half taking baccalaureate general courses, for each student the State would save one-half of the general studies subsidy (@ 1973-74 rates) of $511 and one-half of the baccalaureate general subsidy of $1,118, or a total of $815. The 25 "accelerated" students would thus bring a total savings to the State of $20,375.

CONCLUSION

Although MAP is only in its second year of existence, its impact on faculty, on the University-at-large, and on higher education is already noticeable. Furthermore, its continued search for achievement criteria, its continued focus on the baccalaureate as an area of problematic concern, and its continued emphasis on the development of new modular curricular programs all point in the direction of an even greater impact in the future.

Impact on Faculty

In its first year of operation, approximately forty members of the BGSU faculty were intimately involved in MAP, either in a teaching, developmental, evaluative, or advisory capacity. These faculty members, through their participation in MAP, gave credence to the notion that curricular development is indeed a prime area of faculty concern, that the articulation of goals and objectives and the creation of a research design to implement those goals and objectives are feasible in a university context, that program evaluation is not only possible but also worthwhile and "honorable" as a faculty endeavor, and finally and possibly most importantly, that the personal and professional development of faculty members are legitimate areas of faculty concern involving more than the publication of scholarly articles. The faculty members involved in MAP (as many of their colleagues) are beginning to realize that university faculty may legitimately be identified not only by their departmental homes but also by their programmatic concerns.

Impact on the University

In many ways, impact on faculty is synonymous with impact on the University. When faculty members begin to identify with programs, can a "program university" be far behind? When curricular development is recognized as a legitimate area of faculty concern, may that not be the beginning of more flexible faculty contracts? When evaluation is seen as "part and parcel" of new program development, can the sophisticated evaluation of all learning experiences, whether old, new, traditional, or innovative, be opposed as unnecessary, impractical, and irrelevant?

There is no doubt that MAP has had an impact on Bowling Green. Certainly, it has burdened University Councils with the task of asking some long, hard questions about the nature of the baccalaureate and the merits of change.

However, there have also been other, more concrete, examples of impact. MAP has fostered an emphasis on the integration or at least the coordination of complementary academic disciplines in full-time, intensive, quarter-long learning experiences. It has contributed to the impetus for a systematic review of options open to the student to obtain credit for knowledge gained through non-classroom activities; (witness the University's new emphasis on credit alternatives and credit-by-examination and the recent publication by MAP of a "Resource Catalogue of Off-Campus and Field-Based Experiences"). It has stimulated an increased recognition of the fact that there must be a closer integration of the areas of student affairs and academic affairs of the University, with increased use of dormitory facilities as academic learning centers and increased participation by faculty members in dormitory life. It has attempted to heighten interest in developmental education through the

creation of an Academic Development Library. It has submitted itself as a prototype program within a recently-created Academic Development and Evaluation System. In short, it has attempted to act as a catalyst for innovation throughout the University.

Impact on Higher Education

MAP's concern for the development of achievement criteria and competency-based testing is in the "mainstream" of higher education in the nation today. National publicity regarding the program has been widespread and uniformly favorable. A conference held at Bowling Green, in May, 1973, brought together program directors of eleven out of the twelve time-shortened baccalaureate programs being funded by the Carnegie Corporation, plus representatives of the Corporation itself. A Conference report entitled "The Dynamics of Baccalaureate Reform" is being published by MAP and will be circulated widely. MAP's attempts to come to grips with the question of the nature of general education is echoed in the latest Newman Report:

> The fundamental values of a general education have been put forward as useful preparation for a productive life, for social responsibility and for personal fulfillment... But if these values are to be the yardstick, then it is essential to insure that academic programs do indeed provide an education that is effective for these purposes. A re-examination and renewal of all of post-secondary education and particularly of liberal education may therefore be the most important agenda item of the 1970's. *

The Search for Achievement Criteria

In a most important sense, the name of the learning game is achievement: cognitive and communicative skills, problem-solving abilities, competencies, performance, output; call it what you will. Higher education

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* Quoted by Cheryl M. Fields in an article entitled "Let Colleges Vie For Students, Government is Urged," The Chronicle of Higher Education, Vol. VIII (October 29, 1973), page 7.

must deal with the question of what the student can be expected to know upon graduation. What does it mean to say that the University certifies that a student has attained enough "education" (learning? knowledge? wisdom?) to justify the awarding of a baccalaureate degree? Are not credits and hours merely surrogates (one might wish to read "cop-outs" here) for accurate measures of performance attesting to student achievement? What are those measures of performance?

These are some of the questions with which MAP is attempting to deal. We do not have all the answers; but at least we are making an attempt to ask those questions which members of society-at-large (and especially their legislative representatives) are beginning to ask: What are we paying for and what are our sons and daughters receiving in return for our and their investment? Society may not like the answers that universities give; but in searching for achievement criteria, MAP is at least attempting to provide some answers concerning the types of skills which must be attained before the baccalaureate is granted.

The Baccalaureate as an Area of Problematic Concern

As Kenneth Boulding stated in his classic study The Image: "We must examine the whole process of formal education from the point of view of what is the minimum knowledge, not the maximum, which must be transmitted if the whole structure is not to fall apart."* The basic philosophy of MAP reinforces this notion, for it emphasizes the identification of areas of achievement in the baccalaureate learning experience which are essential to the "educated" man. MAP seeks to streamline the baccalaureate by bringing it

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* (Ann Arbor: The University of Michigan Press; 1956), page 163.

up to its essentials; and it attempts to do so precisely by viewing the baccalaureate as an area of problematic concern subject to the best research, curricular planning, and evaluation possible.

Looking Towards the Future

MAP is now in its second year of existence and its last year of funding from the Carnegie Corporation. The future is cloudy but by no means grim; and the present is exciting.

Perhaps the most pervasive problem encountered by MAP was aptly described by a faculty member as "building an airplane while attempting to fly." It is not an inappropriate analogy to consider when confronted with the task of delineating rigorous evaluative plans for a program which did not have the time to implement the planning and development stages normally associated with the careful structuring of a new curricular design. This fact, along with the problems of doing social research in a natural setting, account for many of the limitations of the program's evaluation efforts.

In its second-year evaluation plan, MAP is attempting to deal with some of the problems arising out of its first research design. First of all, it is beginning to revise, modify, and refine its achievement criteria in the general education area in order to meet the needs and concerns of the various Colleges of the University. Secondly, it is investigating dormitory life as a variable affecting the learning process. Thirdly, it is attempting to deal with the knotty question of student motivation by offering the possibility of a time-shortened baccalaureate not only to the MAP student but also to his "matched" counterpart among freshmen taking the traditional curriculum.

Lastly, MAP is trying to diversify and "round-out" its curricular program by offering new clusters in "business and society" and in environmental studies. Both of these clusters emphasize learning experiences in and related to the social sciences, an area in which MAP has not previously devoted much effort, (although perhaps it is more correct to say that MAP has devoted much effort to stimulating faculty interest, with little success).

The 1973-74 academic year brings 247 new freshmen into MAP and an additional opportunity for us to evaluate the program and for the university to determine the utility of our endeavor.

APPENDIX

Additional MAP Reports

1. The Third Year of the First Little College: "Images"
2. The Third Year of the First Little College: "Communications"
3. Humanities Cluster College: 1972-73
4. A Final Report on the First Science Cluster College: Spring, 1973
5. Analysis of Student Performance on the Undergraduate Record Examinations
6. A Survey of Student Experiences: Spring, 1973
7. The Counseling Services in MAP: An Evaluation
8. MAP Financial Evaluation: 1972-73
9. Working Paper for MAP Evaluation II (1973-74)
10. Resource Catalogue for Off-Campus and Field-Based Opportunities